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5. Morchella conica.
   Persoon, Champ. com. 1818.
6. Morchella deliciosa.
   Morchella elata.
   Fries. Syst. Myc. 1823.
7. Morchella prierosa.
   Krombholz. Schw. 183-.
8. Morchella distans.
   Fries. S. V. Scand. 1849.
9. Morchella angusticeps.
   Peck. Bulletin N. Y. Mus. 1887.

II. MORCHELLA PATULA.

1. Phallus, capitulo conico, subtus patente, etc.
   Gleditsch. Meth. Fung. 1753.
2. Phallus patulus.
   Schrank, Baier. Fl. 1789.
   Gmelin. Syst. Nat. 1791.
3. Phallus squamosus.
   Ventenat. Diss. Ph. 1798.
4. Helvella hybrida.
   Sowerby, Eng. Fung. 1799.
5. Morchella semilibera.
   Morchella rimosipes.
   Lam. & Dec. Fl. Fr. 1805.
6. Morchella fusca.
   Persoon. Myc. Eur. 1822.

If any mycologist can dress one or more of these synonyms up in proper specific characters, I will be pleased to see it done.

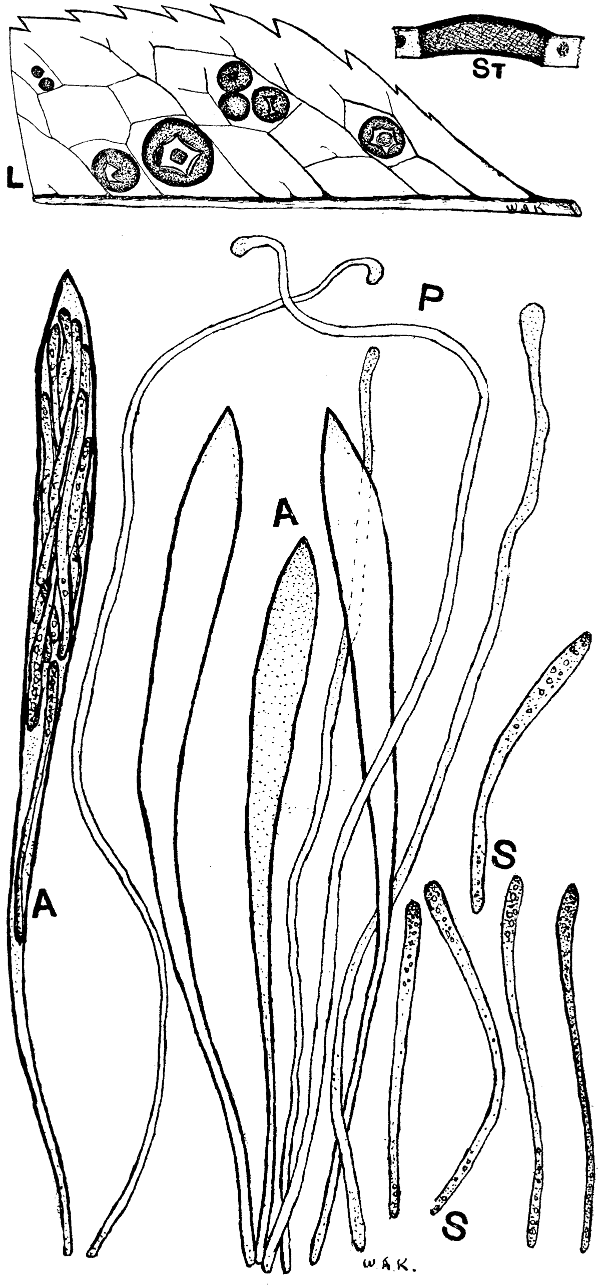
A NEW SPECIES OF RHYTISMA

W. A. KELLERMAN.

At West Mansfield, Logan County, Ohio, July, 1901, a thicket several acres in extent of Ilex verticillata was inspected and found to be universally and abundantly affected with a Rhytisma, which though immature seemed to be an undescribed species. Specimens representing the stage are issued in Ohio Fungi, No. 76. Mr. Ellis received the same form immature from Professor Carver, 292, on the same host (apparently), at Tuskegee, Alabama. He also says: "In the specimens issued in N. A. F. 3134, and F. Col. 535 collected on the same host in Vigo County, Indiana, by Professor Underwood, the stromata are amphigenous but more prominent below, instead of being *concave,* a character not found in any other species of Rhytisma on Ilex."

The accompanying figures illustrate the important characters of the form in question. At St. in Plate I is shown a diagramatic transverse-section in which the concavity of the underside of the stroma is pronounced. On the leaf in the same figure are shown a number of stromata of varying sizes, most of which are ruptured above in the somewhat regular manner. Figures represent the characteristic asci (A), accompanied by the slender elongated paraphyses (P). The ascus to the left contains ascospores, the others are empty or immature. The spores are also shown on the same Plate (S). Mature speci-

Plate I



Rhytisma concavum Ell. & Kellerm. sp. n.

mens were obtained early in June 1902, and are issued simultaneously in Ohio F., No. 75.

The technical description of the proposed species is as follows:

Rhytisma concavum Ell. & Kellerm. n. sp. — Stromata epiphyllous but also visible below, forming thin, black, thickly scattered blotches, 1-4 mm. diameter, orbicular or subangular, the surface uneven, surrounded by a pale yellowish, narrow margin, more or less concave below and the margin broader and paler, at maturity rupturing by radiating fissures, in the oblong forms a central elongated fissure also occuring and in the larger ones a circular area being cut out, the hygroscopic lobes strongly recurved when moist exposing a light yellowish, later sordid yellow then blackish disk. Asci 80-110 x 8-10 μ, oblanceolate, much elongated below, strongly acute at the apex, accompanied by abundant slender and at the tips. Spores 20-35 x 2-3 μ hyaline, nearly straight to strongly elongated mostly flexuous paraphyses about 4 μ wide, usually enlarged curved, slightly thicker at one end in which are large clear granules.

On leaves of Ilex verticillata; spores mature in June. Type specimen in Herb. W. A. Kellerman.

CULTURES OF UREDINEAE IN 1900 AND 1901

BY J. C. ARTHUR.

The first especially important cultures of plant rusts made by the writer were conducted in 1899, and the results published in the Botanical Gazette for April 1900 (29:268-276). During the two following years only a small number of cultures were made, and for a number of reasons the results have not been put into type until now. This article is, therefore, the second of the series.

The method pursued in most cases in making the cultures has been stated in the preceding article. It was, in brief, to remove spores with a knife from the host, and place them on a dampened plant which it is desired to infect. The plants are grown in pots. After the spores are sown the whole plant is covered with a belljar and kept shaded for a day, or sometimes two days. The plants are then uncovered and placed on a greenhouse bench, where they remain until the period of observation is ended.

In 1900 the only cultures made that require mention were with Euphorbia rust. The results supplement and confirm those made in 1899 (Bot. Gaz. 29:270-271). It was again found that spores from Euphorbia nutans would grow upon the same species, but not upon E. maculata. It seems quite probable that this rust, Uromyces euphorbiae C. & P. possesses specialized forms. The record is as follows: